HISTORY OF COST ESTIMATES FOR HOSPITAL INSURANCE

ACTUARIAL STUDY NO. 61

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A. Introduction

This Study presents the history of the development of the cost estimates made by the Office of the Actuary for various proposals for providing hospital insurance benefits to persons aged 65 and over, which culminated in Title XVIII of Public Law 89-97.

The provisions of the Hospital Insurance system (HI) can be briefly summarized as follows:

Public Law 89-97, approved July 30, 1965, amended the Social Security Act and related provisions of the Internal Revenue Code by establishing the hospital insurance program. A summary of its provisions is as follows:

I. Coverage provisions (for contribution purposes)

(a) All workers covered by old-age, survivors, and disability insurance system.

(b) All railroad workers (covered directly by system, and not through financial interchange provisions, if railroad retirement taxable wage base is not the same as the hospital insurance base; if bases are the same, railroad retirement system collects contributions and transfers them to hospital insurance trust fund through financial interchange provisions[a]; hospital insurance trust fund pays benefits to suppliers of services in either case).

II. Persons protected (for benefit purposes)

(a) Insured persons--all individuals aged 65 or over who are eligible for any type of old-age, survivors, and disability insurance or railroad retirement monthly benefit (i.e., as insured workers, dependents, or survivors), without regard to whether retired (i.e., no earnings test).

(b) Uninsured persons--individuals who attain age 65 before 1968 who are not eligible for any type of monthly benefit under the old-age, survivors, and disability insurance or railroad retirement programs, who are citizens or aliens lawfully admitted for permanent residence with at least 5 consecutive years of residence, and who are not covered under the Federal Employees Health Benefits Act of 1959 (including certain individuals who could have been covered if they had so elected)

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a/ Public Law 89-212, approved September 29, 1965, provided that the railroad retirement wage base will, in the future, be automatically adjusted so as to be the same as the earnings base under the hospital insurance system.

and have not been convicted of any offense listed in section 202(u) of the Social Security Act. (Section 103(b)(1) of P.L. 89-97 also excluded individuals who are members of any organization referred to in section 210(a)(17) of the Social Security Act. This provision was held to be unconstitutional by a Federal court, and its enforcement was enjoined.) Those in this category attaining age 65 after 1967 must have certain amounts of old-age, survivors, and disability insurance or railroad retirement coverage to be eligible for hospital insurance benefits--namely, three quarters of coverage for each year after 1965 and before age 65, so that the provision becomes ineffective for men attaining age 65 after 1973 (for women, 1971), since then the "regular" insured status conditions for cash benefits are easier to meet.

III. Benefits provided

(a) Hospital benefits--full cost of all hospital services (i.e., including room and board, operating room, laboratory tests and X-rays, drugs, dressings, general nursing services, and services of interns and residents in training) for semiprivate accommodations for up to 90 days in a "spell of illness" (a period beginning with the 1st day of hospitalization and ending after the person has been out of a hospital and an extended care facility for 60 consecutive days), after a deductible of $40 and coinsurance of $10 per day for all days after the 60th one and also a deductible of the cost of the first 3 pints of blood; after 1968, the $40 deductible and the $10 coinsurance will be automatically adjusted to reflect changes in hospital costs after 1966; lifetime maximum of 190 days for psychiatric hospital care.

(b) Extended care facility (skilled nursing home or convalescent wing of hospital) benefits--following at least 3 days of hospitalization, beginning within 14 days of leaving hospital, and for continued care of a condition for which a person was hospitalized, up to 100 days of such care in a spell of illness, with coinsurance of $5 per day for all days after the 20th one; after 1968, the $5 coinsurance will be automatically adjusted to reflect changes in hospital costs after 1966.

(c) Home health services benefits--following at least 3 days of hospitalization, beginning within 14 days of leaving hospital or extended care facility, up to 100 visits in the next 365 days and before the beginning of the next spell of illness; such services are essentially for homebound persons and include visiting nurse services and various types of therapy treatment, including outpatient hospital services when equipment cannot be brought to the home.

(d) Out-patient hospital diagnostic services benefits--80 percent of the cost of such services, after a deductible of $20 with respect to services furnished by a particular hospital in a 20-day period; the amount of the deductible would be adjusted after 1968 in the same manner as the hospital deductible; any deductible paid for these services is used as an incurred expense under the voluntary supplementary plan.

(e) Services not covered--services obtained outside of the United States (except for emergency services for an illness occurring in the United States and the foreign hospital involved was closer, or substantially more accessible, than the nearest adequate U.S. hospital), elective "luxury" services (such as private room or television), custodial care, hospitalization for services not necessary for the treatment of illness or injury (such as elective cosmetic surgery), services performed in a Federal institution (such as a Veterans' Administration hospital), and cases eligible under workmen's compensation.

(f) Administration--by Department of Health, Education, and Welfare. Each provider of services can nominate a fiscal intermediary (such as Blue Cross, other health insurance organizations, or State agencies) or can deal directly with the Department. The providers of services are reimbursed on a "reasonable cost" basis, and the fiscal intermediaries are reimbursed for their reasonable costs of administration. The providers of services must meet certain standards, including establishment of utilization review committees for hospitals and extended care facilities and development of transfer agreements between hospitals and extended care facilities.

(g) Effective date--July 1, 1966, for all benefits except extended care facility benefits (January 1, 1967).

IV. Financing

(a) Insured persons--on a long-range self-supporting basis (just as under the old-age, survivors, and disability insurance system), through separate schedule of increasing tax rates on covered workers, with same maximum taxable earnings base as scheduled for the old-age, survivors, and disability insurance system, $6,600; same rate applies to employees, employers, and self-employed (unlike under the old-age, survivors, and disability insurance system). This contribution schedule is as follows:

Calendar Year	Rate*
1965	--
1966	0.35%
1967-72	.50
1973-75	.55
1976-79	.60
1980-86	.70
1987 and after	.80

* Rate for employee; same for both employer and self-employed.

(b) Hospital insurance trust fund--separate trust fund, with separate board of trustees (same membership as for old-age and survivors insurance and disability insurance trust funds) and with same investment procedures.

(c) Noninsured persons--from general revenues, through the hospital insurance trust fund.

There have been many proposals made, and many bills introduced, in recent years to provide coverage similar to what is now law for which cost estimates have been made by the Office of the Actuary. Unfortunately there has been so little data available on which to base the cost estimates that we have had to resort to many sources of sparse, non-homogeneous, and out-of-date data--rather than using a few sources of good and directly applicable data. This obviously required quite a bit of ingenuity and very much judgment. As proposals changed, as new studies and data became available, and as different assumptions were made, the cost estimates quite understandably were revised accordingly.

Obviously, not all estimates made can be set forth in this Study, but the bases for the most significant proposals will be described.

B. Cost Estimates Prior to 1960

The subsequent sections will deal, in some detail, with the various cost estimates for hospital and related benefits that have been prepared completely under the responsibility of the Office of the Actuary, beginning with the 1961 legislative proposals. This section will briefly discuss the underlying assumptions for earlier cost estimates for proposals of this type that were made in 1952-59.

These earlier cost estimates were made by applying (a) the estimated per capita costs for the proposed hospital benefits (related to persons eligible for these benefits) that were developed by the Division of Program Research to (b) the estimated numbers of beneficiaries in the long-range OASDI cost estimates developed by the Office of the Actuary. In the latter part of the 1950's, the Office of the Actuary took a more active role in the development of the hospital-benefits cost factors, but the Division of Program Research still had the primary responsibility for them.

The 1952 Proposal

The first proposal for hospital benefits with respect to OASI eligibles (beneficiaries actually on the roll, plus those who have the necessary age and insured status conditions, but who are not on the roll because of the earnings test or for other reasons) was presented in legislative form in 1952 as an Administration proposal. Specifically, it was contained in the following bills: H.R. 7484 (Dingell), H.R. 7485 (Celler), and S. 3001 (Murray). Under this proposal, all eligibles (regardless of age) would have available 60 days of hospital care per calendar year.

No special financing provisions were included in the proposal, since the OASI system at that time had an "actuarial surplus" of about ½% of taxable payroll on a level-cost basis (that was subsequently used to finance the liberalizations contained in the 1952 Amendments, which did not include any change in the contribution schedule or in the maximum earnings base).

The term "level-cost" is used extensively in this Study and is defined as the present value (at a prescribed interest rate) of future benefits over the period covered by the cost estimate, divided by the present value of future taxable payrolls. The level-cost is thus expressed as a percentage of taxable payroll. It can be seen, therefore, that a tax rate equal to the level-cost of benefit payments and administrative expenses will be sufficient to support the program.

It is important to understand the meaning of the term "present value" and to know the period used in making present-value calculations.

Present value is discounting at interest. As an example, the present value of $1,000 due in 10 years is $(1.03)^{-10}$ times $1,000, or $744, if the interest rate is 3%. The present value of a series of amounts at various future dates is the sum of the present values of each amount. In calculating present values for the early proposals, the period used was perpetuity. As will be discussed later, calculations for the 1965 proposal were made for a 75-year period, and calculations for the 1965 Act were based on a 25-year period.

The intermediate cost of this first proposal to provide hospital benefits for OASI eligibles was estimated at about .15% of taxable payroll in the first full year of operation, gradually rising to .3% in about 20 years, and to .5% ultimately, with the level-cost being about .4% of taxable payroll.

The underlying bases of the cost estimates for the 1952 proposal were that, in the initial period, the average daily cost of hospitalization would be $15 and that the average utilization rates (average hospital days per eligible person per year) would be $\frac{1}{2}$ day for children, 1 day for widowed mothers, and a low estimate of 2 days and a high estimate of $2\frac{1}{2}$ days for persons aged 65 and over. Administrative expenses were estimated at 5% of the benefit costs.

The average daily cost figure of $15 was based on a projection to 1953 of actual 1949 costs for short-term stays in general and special hospitals. As to future trends of hospital costs, it was assumed that they would increase in direct proportion to the increase in taxable wages (note that this refers to taxable wages, which are held down by the earnings base, and not to total wages, unless it is also assumed that the earnings base rises in proportion to changes in the earnings level).

The utilization rates were based on the average utilization rate of 1.0 day per person per year for the entire population, adjusted to reflect the demographic characteristics of the particular category and the expected increase in hospitalization when insurance is present, based on such experience data as were available at the time.

The 1957 Proposals

In 1957, three major bills were introduced to provide hospital benefits with respect to OASDI eligibles. H.R. 1092 (Celler) was the same as the bills introduced in 1952 that provided hospital benefits up to a maximum of 60 days per calendar year for OASI eligibles, but not for the newly-created DI eligibles (as a result of the 1956 Amendments). H.R. 4765 (Dingell)--and the companion bill, H.R. 9448 (Roberts)--were the same as the preceding bill, except that they would also provide hospital benefits for DI eligibles. H.R. 9467 (Forand), which received the most public attention since its author was a high-ranking member of

the Ways and Means Committee, provided hospital benefits of up to 60 days per calendar year, nursing home care following discharge from a hospital (up to a combined total of 120 days of hospital and nursing home care in a year), and surgical benefits for OASI eligibles, but not for DI eligibles. The first two proposals would not have changed the taxable earnings base of $4,200 then in effect, but the last would have involved a $6,000 earnings base.

A report issued by the Division of Program Research set forth the cost assumptions that were used in evaluating the costs of each of these proposals ("Basic Cost Calculations Relating to Proposals to Provide Hospitalization and Other Medical Care Services to OASDI Beneficiaries", January 20, 1958). The underlying bases of the cost estimates for the 1957 proposals were (a) in the initial period, the average daily cost of hospitalization would be $21 for beneficiaries aged 62 and over and for disabled beneficiaries, and $23 a day for mother and child beneficiaries and (b) the average hospital utilization rates would be $\frac{1}{2}$ day for children, 1 day for widowed mothers, and a low estimate of 2 days and a high estimate of $2\frac{1}{2}$ days for persons aged 62 and over. Administrative expenses were estimated at 5% of the benefit costs.

The average daily hospital costs were founded on the average total expense in all non-Federal short-term general hospitals in 1956 of $24.15 a day (as developed by the American Hospital Association), adjusted down to $22.50 to allow for the estimated cost of outpatient departments and research that were included in the former figure and, further for the aged, to $21.00 to reflect the fact that the longer stays of this category should result in a lower per diem cost. It may be noted that each of the two foregoing reductions represents about a 7% relative decrease. As to future trends of hospital costs, it was again assumed that they would increase in direct proportion to the increase in taxable earnings.

The hospital utilization rates that were used were, by coincidence, the same as those used in connection with the 1952 proposal; they were based on analysis of some significant data that had become available after the estimates for the latter proposal had been made--namely, from a survey by the Bureau of the Census that was conducted in March 1952. This survey indicated a utilization rate of 1.57 days per person per year, after a downward adjustment for a 60-day maximum and after an upward adjustment of 25% to allow for decedents. As a low-cost assumption, this rate was increased to 2.0 days per person per year, so as to allow for increased utilization if insurance benefits were available. A high-cost assumption was derived on the basis of admission rates for persons who had insurance (such rates being higher than for the noninsured portion of the population) and an average duration of hospitalization for persons without insurance (such duration being higher than for the insured portion of the population); the result was then adjusted for decedents, yielding a figure of 2.35 days, which was increased to 2.5 days to allow an additional margin for increased utilization.

Using the foregoing assumptions, the intermediate estimate of the level-cost for H.R. 1092, which corresponded to the 1952 proposal, was .52% of taxable payroll (as compared with the figure of .4% derived in 1952). A small part of the increase in cost resulted from including female beneficiaries aged 62-64, who had been included in the OASDI program by the 1956 Amendments. It may be noted that the level-cost of the hospital benefits for widowed mothers and children was only .02% of taxable payroll.

The estimated additional level-cost of H.R. 4765 resulting from inclusion of disabled worker beneficiaries aged 50-64 was estimated at only .01% of taxable payroll. This category was assumed, in the absence of experience data, to have the same hospital utilization rate as the low-cost one applicable to aged persons (taking due note of the fact that hospital benefits would not be available for the disabled during the 6-month waiting period).

The intermediate-cost estimate for the Forand bill, as computed on the prevailing $4,200 earnings base, included the foregoing estimated level-cost of .52% of taxable payroll for the hospital benefits and involved, in addition, .01% for the nursing home benefits and .07% for the surgical benefits, making a total of .60% of taxable payroll. However, since the Forand bill provided an increase in the earnings base to $6,000 (which meant a larger taxable payroll against which to measure the costs), the overall cost relative to the taxable payroll under the bill was reduced to .54%. This may be compared with the financing provided in the bill--namely, an increase of ½% in the combined employer-employee contribution rate.

The 1959 Proposals

In the report of the House Ways and Means Committee on the 1958 Amendments (which made a number of significant changes in the OASDI system, but which did not include any provisions in regard to hospital benefits), a request was made that the Secretary of Health, Education, and Welfare should prepare a report on the subject, "Hospitalization Insurance for OASDI Beneficiaries". This Hospitalization Report was published by the Ways and Means Committee as a Committee Print on April 3, 1959. Among other things, this Hospitalization Report presented new cost estimates for hospital and related benefits, based both on the availability of new data and on revised assumptions.

After the cost estimates had been made for the 1957 proposals, data on hospital utilization had become available from a beneficiary survey made by the Social Security Administration in 1957. The overall results (after adjustments for a 60-day maximum benefit period, for decedents, and for increased utilization due to the existence of insurance) were somewhat higher than the assumptions used previously--namely, an average

utilization rate ranging from 2.3 to 2.8 days per aged eligible (men aged 65 and over; women aged 62 and over), as against the previous range of 2.0 to 2.5 days. If only eligibles aged 65 and over were considered, the comparable range, based on the new data, was 2.4 to 3.0 days. Details by age-sex groups are shown in Table 1, presented in the next section.

The same utilization rates as previously were used for widowed mothers and child beneficiaries. For the disabled, the high utilization rate for aged beneficiaries was used (2.8 days).

The new cost estimates assumed, for the early years, the same average daily hospital costs as were used for the 1957 proposals, except that they were adjusted upward to reflect the likely increases through 1960. The resulting figures were $27 a day for the aged and the disabled, and $29 a day for younger beneficiaries.

For the long-range cost estimates, a new procedure was adopted in regard to the assumptions as to average daily hospital costs. The earnings assumptions underlying these estimates were based on the 1956 level, but it was assumed that hospital costs would continue to rise more rapidly than earnings levels in the future until the early 1960's, and that thereafter they both would increase at the same rate. This thus involved multiplying the 1956 per diem costs by 14% to reflect the estimated differential of hospital costs over earnings levels during the period between 1956 and the early 1960's. The Hospitalization Report also considered the possibilities that, on the one hand, hospital per diem costs would continue to rise more rapidly than general wage levels until 1970, or that, on the other hand, over the long-term future, hospital per diem costs might decline relatively as compared with wages (due to changes in institutional patterns and other factors).

As in previous estimates, it was estimated that administrative expenses would be 5% of benefit payments. Further, it was estimated that, as in the previous cost estimates, skilled nursing home benefits would have a level-cost of only about .01% of taxable payroll (although it was recognized that a very broad nursing home benefit could have a very sizable cost--as much as the cost of hospital benefits). The new cost estimates for hospital benefits with a maximum duration of 60 days per year for all OASDI beneficiaries showed a level-cost of .66% of taxable payroll (under the $4,800 earnings base that had been introduced by the 1958 Amendments) for the intermediate-cost estimate. The vast majority of this cost related to aged beneficiaries (men aged 65 and over; women aged 62 and over), with .03% relating to disabled workers aged 50-64 and .01% relating to other beneficiaries.

On February 18, 1959, Congressman Forand re-introduced the proposal contained in his 1957 bill. This new bill, H.R. 4700, was virtually the same as the earlier one, except that it would make no change in the earnings base over the figure of $4,800 that was provided by the 1958 Amendments.

The cost estimate for this new bill was based on the underlying data and methodology used in the cost estimates presented in the 1959 Hospitalization Report. The total level-cost of the proposal was estimated at .79% of taxable payroll, consisting of .63% for the hospital benefits, .01% for the skilled nursing home benefits, .12% for the surgical benefits, and .03% for administrative expenses. The estimated cost for the surgical benefits was based on data from the 1957 SSA Beneficiary Survey and was somewhat higher than the previous estimates made for this type of benefit.

It may be noted that Congressman Forand accepted the higher estimate of the cost of his proposal. He incorporated appropriately higher contribution rates in his proposal when it was subsequently voted on by the Ways and Means Committee (at which time, it was rejected).

C. Cost Estimates for 1961 Administration Proposal

The first cost estimate published by the Office of the Actuary for a hospital-benefits program was that made for the first King-Anderson Bill, H.R. 4222, introduced on February 13, 1961. This estimate can reasonably be considered as the starting point for subsequent estimates by the Office of the Actuary. It is described in detail in Actuarial Study No. 52.

Beginning at this time, the Office of the Actuary was assigned full responsibility for the preparation of cost estimates for hospital-benefits proposals. It, of course, had available the data developed (and continuing to be developed) by the Division of Program Research--now, the Office of Research and Statistics--as well as any necessary consultation with the staff of that division who had extensive experience in this field. The estimates prepared under this new basis were--as will be indicated--developed by building on the previous estimates, rather than by starting anew.

A brief summary of the bases for this estimate will be given here, but the Study should be referred to for more detail.

This bill would have provided the following benefits:

(a) 90 days of semi-private hospital care within a "benefit period", with a deductible of $10 per day for the first 9 days (minimum deductible of $20).

(b) 180 days of skilled-nursing-home services within a "benefit period", when such services are furnished following transfer from a hospital and are necessary for continued treatment of a condition for which the individual was hospitalized.

(c) 240 home-health-service visits during a calendar year.

(d) Outpatient-hospital-diagnostic services in excess of a $20 deductible, for each diagnostic study.

There was an overall limit on hospitalization and nursing-home benefits in that during any "benefit period" only 150 "units of service" could be used, where such a "unit" consists of 1 day of hospitalization benefits or 2 days of nursing-home benefits. The term "benefit period" means the period beginning with the first day that an individual receives hospital benefits and ending with the last day of the first 90-day period thereafter during which he has not been a patient in a hospital or a skilled nursing home. The benefits would first be available in October 1962, except for nursing-home benefits, which would first be available in July 1963.

These benefits (and the accompanying administrative expenses) would be financed, on a long-range basis, by (1) an increase in the combined employer-employee contribution rate of ½% (effective in 1963), with a corresponding increase of 3/8% in the rate for the self-employed and (2) the "gain" to the OASDI system resulting from increasing the maximum earnings base from $4,800 to $5,000 (effective in 1962). The gain from increasing the earnings base was estimated to be equivalent to the effect of a rise in the combined employer-employee contribution rate of .1% of payroll. This income--totalling .6% of taxable payroll--would be channelled into the Health Insurance Account of the Federal Social Insurance Trust Fund, which would also include the existing OASI and DI Trust Funds as two separate accounts.

It should first be stated that the objective of cost estimates is not to get absolute figures for benefits and taxes at various future dates. The objective is to arrive at a schedule of tax rates which will provide sufficient revenue to pay all benefits and to maintain an adequate balance in the trust fund. Accordingly, it should be emphasized that some assumptions have been made which result in lower benefits and lower revenues than is expected, but which will result in a realistic ratio of benefits to income.

This reasoning led to the basic assumption for the first King-Anderson Bill that the long-range cost estimate would be on a static basis. In other words, it was assumed that there would be no future changes in average hospital-per-diem cost or in covered wage rates. Obviously, this assumption would be totally without validity in computing benefits and contributions in dollar amounts; however, the assumption was a valid one for the purpose of calculating tax rates if it were coupled with the additional assumptions that hospital costs and wage levels would rise in the future at the same rates and that Congress would adjust the deductible amounts and the taxable earnings base at roughly the same rates as rising hospital costs and wage levels occurred in the future. Accordingly, these latter two assumptions were also made.

1. Hospital utilization rates

The basic data used in computing utilization rates (days of hospitalization per year per 1,000 persons exposed to risk) were based on results from the SSA Survey of Beneficiaries (1957). Modifications were made in the results to recognize that the availability of benefits will result in greater utilization than that reported in the Survey. In addition, the basic data were corrected to allow for hospitalization of persons who died during the year, who would not be reported in the survey. These corrections are described on pages 4 and 6 of Actuarial Study No. 52.

The above-mentioned adjustments were made in such a manner as to give both low-cost and high-cost estimates. The results are given in Table 1 on an age-sex basis. These are the same basic rates as were used in the cost estimates described in the previous section.

Table 1

HOSPITAL UTILIZATION RATES FOR OASDI BENEFICIARIES AGED 65 AND OVER, 60-DAY MAXIMUM, ACCORDING TO 1957 BENEFICIARY SURVEY
(average days per person per year)

Age Group	Low-Cost Estimate			High-Cost Estimate		
	Before Correction for Decedents	Correction for Decedents[a]	Corrected Rate	Before Correction for Decedents	Correction for Decedents[a]	Corrected Rate
			Men			
65-69	1.59	.34	1.93	2.18	.43	2.61
70-74	1.66	.48	2.14	2.01	.60	2.61
75 and over	2.44	.93	3.37	3.46	1.17	4.63
65 and over[b]	1.85	.55	2.40	2.49	.69	3.18
			Women			
65-69	1.59	.20	1.79	1.73	.25	1.98
70-74	2.42	.31	2.73	2.65	.38	3.03
75 and over	2.53	.78	3.31	3.11	.97	4.08
65 and over[b]	2.09	.38	2.47	2.36	.47	2.83
			Total Persons			
65 and over[b]	1.97 (2.08)	.47 (.52)	2.44 (2.60)	2.43 (2.57)	.58 (.66)	3.01 (3.23)

a/ Based on average stay of 8 days for low-cost estimate and 10 days for high-cost estimate and on death rates from U. S. Total Population Life Tables for 1949-51.

b/ Obtained by weighting the rates by age and sex by the estimated OASDI "eligible" population as of the beginning of 1960. Figures in parentheses are based on weighting by the stationary population of the U. S. Total Population Life Tables for 1949-51.

2. Effect of maximum-duration and deductible provisions

It is to be noted in Table 1 that the utilization rates shown are for hospital stays for a maximum benefit period of 60 days. If the maximum duration is 90 days, it was estimated that utilization rates would be increased 9%, this estimate being based on data from the National Health Survey and from private insurance experience.

The effect of the deductible provisions was computed from a hospitalization continuance table that was derived from data in the National Health Survey (Health Statistics, Series B. No. 7) and is shown in abridged form in Table 2.

3. Average daily cost of hospitalization

The basic data used for average hospital-per-diem costs were derived from the American Hospital Association figures shown in Table 3. The figure used was $29.60 per day and was arrived at by the following reasoning: Inasmuch as we desire a relationship to taxable payroll, rather than an absolute figure, and since the estimate of contribution income was based on 1959 earnings, the 1959 AHA index of $30.19 was used. This figure was then reduced to $26 to reflect both a 7% reduction because various non-inpatient costs are included in the AHA index, such as outpatient departments and research and a further reduction due to the belief that the longer stays of people aged 65 and over result in a lower average daily cost. This $26 figure was then increased by 14%, to $29.60, to reflect the estimated amount that the rise in hospital costs would exceed the rise in wages after 1959 before wages and hospital costs would rise at the same rates.

It was assumed that, because wages had been rising geometrically and hospital costs linearly, the $29.60 figure would be suitable for level-cost estimates (but not for absolute-dollar cost estimates). This assumption was reasonable only if coupled with the assumption that Congress would adjust the taxable earnings base and the deductible amounts in accordance with rising wage levels. As stated previously, this latter assumption was made and seemed reasonable in light of the actions of Congress since 1950.

4. Cost estimates for hospital benefits

At this point, it may be worthwhile digressing to discuss the effect on the cost of the OASDI cash benefits due to increasing-earnings trends. The benefit formula is "weighted", so that relatively higher benefits are paid to those with low earnings than to those with higher ones. For example, under 1961 law, the primary benefit for an average monthly wage of $300 was $105 per month (or 35.0% of average wage), while the corresponding benefit for an average monthly wage of $360 was $118 per month (32.8% of average wage). Thus, for an average wage that is 20% higher, the primary benefit increases only 12.4%. The effect on the financing of the program is evident, since contributions increase directly proportionately with increases in covered earnings, whereas benefits rise less than proportionately.

Table 2

ABRIDGED HOSPITALIZATION CONTINUANCE TABLE FOR PERSONS AGED 65 AND OVER FOR 60-DAY MAXIMUM BENEFIT
(days of hospitalization per 100 persons)

Waiting Period (days)	Proportion Hospitalized for: Exactly the Length of the Waiting Period	Proportion Hospitalized for: Length of the Waiting Period or a Shorter Time	Days of Hospitalization for Those With: Exactly the Length of the Waiting Period	Days of Hospitalization for Those With: Length of the Waiting Period or a Shorter Time	Hospitalization Excluded by Waiting Period: Days	Hospitalization Excluded by Waiting Period: Proportion
1	3.8%	3.8%	3.8	3.8	100.0	7.2%
3	6.6	17.5	19.8	37.8	285.3	20.6
5	6.0	29.8	30.0	93.0	444.0	32.0
7	5.6	41.2	39.2	167.0	578.6	41.7
10	4.5	56.0	45.0	299.4	739.4	53.3
14	3.1	70.9	43.4	483.8	891.2	64.3
20	1.2	81.5	24.0	664.3	1034.3	74.6
30	.6	89.6	18.0	866.4	1178.4	85.0
60	.1	95.0	306.0[a]	1386.1[a]	[b]	[b]

a/ Including 60 days of hospitalization for the 5.0% who are hospitalized more than 60 days.

b/ Not meaningful (to have waiting period coincide with maximum benefit-period covered).

Source: Based on data from the National Health Survey (Health Statistics, Series B-7, December 1958, Table 14), Public Health Service, U.S. Department of Health, Education, and Welfare.

Table 3

COMPARISON OF ANNUAL INCREASES IN HOSPITALIZATION COSTS AND IN EARNINGS

Calendar Year	AHA Index[a]	Increase Over Previous Year: Average Earnings in Covered Employment	Increase Over Previous Year: Average Daily Hospitalization Costs
1955	$23.12	3.8%	6.3%
1956	24.15	5.7	4.5
1957	26.02	5.5	7.7
1958	28.27	3.3	8.6
1959	30.19	3.3	6.8
1960	32.23	4.3	6.8
1961	34.98	3.1	8.5
1962	36.83	4.2	5.3
1963	38.91	2.4	5.6
Average[b]		4.0	6.7

a/ Total hospital costs divided by total inpatient hospital-days.

b/ Rate of increase compounded annually that is equivalent to total relative increase from 1954 to 1963.

In addition, there is the decreasing-cost effect that results from the lag involved when earnings levels rise, since the average wage is, in essence, a lifetime one and thus is affected by the lower earnings levels of the past.

The long-range actuarial cost estimates for the OASDI system always have assumed that earnings would be level in the future at about the level currently prevailing at the time the estimates were made. It has been recognized that if earnings levels rise in the future--as they have in the past--the benefit level and the taxable earnings base will undoubtedly be modified. Rising earnings will automatically "generate" savings to the system that can be utilized for such purposes as keeping it up-to-date, although the savings may not be sufficient to do this completely.

Another factor that results in "automatic generation" of savings to the OASDI system of cash benefits is the effect of raising the earnings base for tax and benefit-computation purposes. The reason for this effect is also due to the "weighted" nature of the benefit formula. Such changes have been made a number of times in the past[b/] for the purpose of keeping this element of the program up-to-date.

In the past, the savings to the OASDI system resulting from the above two factors (rising-earnings levels considered alone and increases in the maximum earnings base) have been utilized to keep the benefit structure up-to-date--by such changes as increasing the general benefit level, adding new types of benefits, and liberalizing existing benefit provisions.

A contrary situation exists in regard to hospital insurance benefits, because a rise in the average daily cost, when accompanied by a comparable rise in wage levels, will result in benefits rising more than contributions--due to the "dampening" effect of the taxable earnings base. The effect is compounded when benefits are subject to a fixed-dollar deductible, since benefits payable would rise proportionally more than average daily costs. It is for this reason that the assumption was made that Congress would increase both the earnings base and the amount of the deductible by approximately the same percentage change experienced in per diem costs and wage levels.

An intermediate estimate is necessary for purposes of determining the financing basis of the hospital insurance portion of the program. In order to arrive at such an estimate, the low-cost and high-cost utilization rates were averaged and were then multiplied, on the appropriate age-sex basis, by the intermediate estimate of persons aged 65 and over who could be entitled to monthly cash benefits under the OASDI system upon application therefor. This total figure was then multiplied by the average daily hospital cost to get total hospital benefits payable.

5. Cost estimates for skilled-nursing-home benefits

The bill provided that skilled-nursing-home benefits would be available only upon transfer from a hospital and for further treatment

b/ The earnings base was $3,000 during 1937-50, $3,600 during 1951-54, and $4,200 during 1955-58, $4,800 during 1959-65, and it has been $6,600 since 1966.

of the condition that resulted in the hospitalization. It was not possible to know from this written definition exactly what the actual admitting and transferring practices would be. In the early years of operation, one limitation on the costs would, of course, be the limited availability of qualifying facilities. In the long run, however, this could not be regarded as a cost control factor.

Analysis was made of the various elements involved in the cost of this benefit, namely:

(1) Then-present number of skilled nursing home beds;

(2) Number of such beds that are acceptable according to reasonable standards;

(3) Estimated needed beds;

(4) Proportion of beds occupied;

(5) Proportion of occupied beds used by persons aged 65 or over;

(6) Proportion of the aged occupants of beds that consists of HI beneficiaries;

(7) Proportion of occupants with duration less than 6 months;

(8) Proportion of occupants who entered the nursing home by transfer from a hospital; and

(9) Average daily cost.

As a result of this study, it was estimated that the first-year cost would be $25 million (reflecting lack of facilities in the early years), but that in later years the cost would be about 10 times as much, which would be equivalent to a level-cost of .08% of taxable payroll.

It was recognized that part of the cost arising for the skilled-nursing-home benefits, when more widely available and utilized, would be an offset to the cost for hospital benefits. Accordingly, in the 1961 estimates, the cost of hospital benefits was reduced by 25% of the cost of skilled-nursing-home benefits.

6. Cost estimates for home-health-service benefits

The cost estimate for home-health-service benefits was based on a study made by the Kansas Blue Cross and Blue Shield. The level-cost was estimated at .05% of taxable payroll, and the cost of hospital benefits was reduced by 40% of this figure to reflect the offset due to the availability of home-health-service benefits.

7. Cost estimates for outpatient-hospital-diagnostic-services benefits

The cost estimate for the outpatient-hospital-diagnostic-services benefits was first made on the basis that there would be no deductible. Relatively little experience is available in regard to the cost of this

benefit for a group consisting of persons aged 65 and over. Such Blue Cross and insurance company experience as there is seems to indicate that the annual cost per capita will be about $7.50 (spread over the total protected population and not merely among those who will use this benefit).

From a cost standpoint, the effect of a $20 deductible for each diagnostic study (note that it is not an annual deductible) would be significant. This deductible provision would reduce the aggregate cost by an estimated 80%, since most of the charges for these services will be relatively small amounts, such as $10 for an X-ray. The number of claims would also be reduced by about 80% by the deductible provision, and thus a considerable amount of the administrative costs otherwise involved in paying a large number of small claims would be eliminated. The relative magnitude of the reduction arising from a deductible tends to be verified by a study of the actual charges of hospital outpatients covered under group insurance policies (see "A Reinvestigation of Group Hospital Expense Experience" by S. W. Gingery in Transactions, Society of Actuaries, Vol. XII, 1961, which gives data on such claims by size intervals). This cost of $1.50 per capita per year was equivalent to a level-cost of .01% of taxable payroll.

8. Estimated administrative expenses

It was assumed that the administrative expenses that would be chargeable to the Health Insurance Account for processing the health-benefit claims and for a pro-rata share of the cost of maintaining the earnings records and collecting the contributions would represent 5% of the benefit disbursements. This figure is comparable with the relative administrative costs of the most efficiently-run Blue Cross plans. The latter frequently have substantial administrative costs that would not arise in connection with health benefits under OASDI--such as those for selling individual enrollments, collection of health insurance contributions alone, and maintenance of the rolls of insured persons solely for purposes of health insurance.

The administrative expenses for the proposed health benefits that are chargeable to the Health Insurance Account did not, of course, include the administrative expenses of the hospitals and other health agencies supplying the benefits, which are included as part of the benefit disbursements. Also not included were the record-keeping and tax-payment expenses incurred by employers in connection with the OASDI program.

9. Earlier cost estimate for 1961 King-Anderson Bill

It should be pointed out that the foregoing cost estimates were not the first estimates made for the 1961 proposal. Prior to publication of the estimates by the Office of the Actuary, the Division of Program Research of the Social Security Administration had made cost estimates for the bill. The differences between the two estimates were primarily due to estimates for the supplementary benefits.

The earlier estimate for skilled-nursing-home benefits was based on the experience of a few Blue Cross plans having such a benefit. The

available data suggested that there might be annual utilization of 10 days of such care per 100 beneficiaries. Since the average daily cost would be about $10, this would mean an aggregate average cost of $1 per year per person aged 65 and over and entitled to monthly OASDI benefits. This was equivalent to a level-cost of .01% of taxable payroll.

The earlier estimate for home-health-service benefits was also believed to be .01% of taxable payroll.

The earlier estimate for outpatient-diagnostic-services benefits was made on the basis that there would be no deductible and was believed to be .02% of taxable payroll.

The following table shows both estimates of the level-costs[c/] of the various types of benefits (plus administrative expenses):

Type of Benefit	DPR Estimate	Our Estimate
Hospital	.56%	.52%*
Skilled-Nursing-Home	.01	.08
Home-Health	.01	.05
Outpatient-Hospital-Diagnostic	.02	.01
Total	.60	.66

*After offset for reduced cost because of availability and use of skilled-nursing-home and home-health benefits.

As will be seen from these figures, the income of .60% of taxable payroll on a level-cost basis would be just sufficient to finance the benefits on a long-range basis according to the original intermediate-cost estimate, but would fall about 10% short relatively according to the revised figures. It was because of this deficiency that the Secretary of Health, Education, and Welfare recommended in his testimony before the Committee on Ways and Means of the House of Representatives that the maximum earnings base be increased to $5,200 (instead of $5,000, as provided in the bill), with the total gain to the system going to the HI system.

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c/ The level-cost is the average long-range cost, based on discounting at 3.02% interest, relative to effective taxable payroll (which is the total earnings of all covered workers reduced to take into account both the maximum taxable earnings base and the lower contribution rate for the self-employed as compared with the combined employer-employee rate so that, in effect, only 3/4 of the earnings of the self-employed within the maximum base are counted). For more details on this concept, see Section E of Actuarial Study No. 49. In this Study, the term "payroll" is used to denote the effective taxable payroll.

The outgo for benefit payments and the accompanying administrative expenses in the first 12 months of operation for each of the four types of benefits, taking into account the actual price and earnings-level situation (rather than the long-range assumptions in these respects), are shown in the following table for our estimates:

Type of Benefit	Amount (millions)	Percent of Payroll
Hospital	$1,015	.44%
Skilled-Nursing-Home	25	.01
Home-Health	10	.004
Outpatient-Hospital-Diagnostic	10	.004
Total	1,060	.46

Table 4 presents the estimated progress of the Health Insurance Account by calendar years, according to our intermediate-cost estimate, carried out into the long-range future. The early-year figures (1962-65) represent what is actually anticipated on the basis of expected future earnings levels and medical-care costs; by 1970 these are merged with the long-range cost estimates, which assume 1959 price and wage conditions.

It will be noted in Table 4 (in which contributions are based on the $5,000 earnings base) that the fund is exhausted in 2017. Table 5 is based on an earnings base of $5,200 and shows that the program would be in actuarial balance then.

Table 4

ESTIMATED PROGRESS OF HEALTH INSURANCE ACCOUNT UNDER 1961 ADMINISTRATION PROPOSAL
(in millions)

Calendar Year	Contributions Allocated[c]	Benefit Payments and Administrative Expenses	Interest on Account[a]	Account at End of Year
1962	$180	$152	--	$28
1963	1,150	1,062	$2	118
1964	1,365	1,098	8	393
1965	1,395	1,134	17	671
1970	1,548	1,361	61	1,974
1975	1,677	1,557	89	3,102
1980	1,805	1,803	113	3,872
1990	2,096	2,308	117	3,898
2000	2,436	2,640	77	2,515[b]

a/ Based on varying interest rate estimated to be earned by OASDI Trust Funds, ultimately leveling off at 3.02% on total assets (3.10% on invested assets).
b/ Fund exhausted in year 2017.
c/ Consisting of ½% tax rate plus gain from raising the earnings base from $4800 to $5000.

Table 5

ESTIMATED PROGRESS OF HEALTH INSURANCE ACCOUNT
UNDER 1961 ADMINISTRATION PROPOSAL IF EARNINGS BASE IS RAISED TO $5200
(in millions)

Calendar Year	Contributions Allocated	Benefit Payments and Administrative Expenses	Interest on Account	Account at End of Year
1962	$306	$152	$2	$156
1963	1,320	1,062	9	423
1964	1,542	1,098	20	887
1965	1,575	1,134	36	1,364
1970	1,744	1,361	117	3,820
1975	1,889	1,557	182	6,366
1980	2,033	1,803	256	8,854
1990	2,361	2,308	327	13,480
2000	2,744	2,640	394	18,766
2050	3,716	5,138	1,496	50,336

D. Cost Estimate Made for Anderson-Javits Amendment

When the actuarial cost estimates (both for the cash benefits and the hospital benefits) were revised in 1962 to take into account the 1961 earnings levels, the financing available under a $5,200 earnings base was estimated at .68% of taxable payroll (because of a larger estimated "gain" from raising the earnings base), but the benefit cost was estimated at .72% of taxable payroll.

The Anderson-Javits Amendment[d/] that was considered by the Senate in July 1962 was the same as the 1961 version of the King-Anderson Bill insofar as OASDI beneficiaries were concerned, except for having a $5,200 earnings base and except for restricting the skilled-nursing-home benefits to such services provided by hospital-associated facilities (just as in the 1963 proposal). This change in the benefit provisions reduced the estimated level-cost to .68% of taxable payroll, so that the financing was estimated to be just sufficient to support the benefits.

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d/ For more details on this proposal and legislative action thereon, see Wilbur J. Cohen and Robert M. Ball, "Public Welfare Amendments of 1962 and Proposals for Health Insurance for the Aged", Social Security Bulletin, October 1962.

E. Cost Estimates Made for 1963 Administration Proposal

The second King-Anderson Bill, H.R. 3920, introduced on February 21, 1963 was only slightly changed from the initial bill.

The only significant changes from a cost standpoint were as follows:

(1) The provision limiting benefits during any benefit period to 150 units of service was eliminated. This was considered to have no cost effect.

(2) The skilled-nursing-facility services were required to be only in a hospital-associated facility (i.e., affiliated or under common control with a hospital).

(3) The earnings base was to be raised from $4,800 to $5,200. The level-equivalent gain from this increase was estimated to be .18% of taxable payroll, and was to be paid into the Hospital Insurance Trust Fund.

(4) Benefit protection would be given to beneficiaries under the Railroad Retirement system.

(5) Benefit protection would be given to certain persons age 65 or over who were not eligible for OASDI benefits. The benefits for this group were to be paid from the HI Trust Fund, but with full reimbursement therefor from the General Treasury.

(6) A beneficiary had the option of electing, irrevocably, to have either of two other types of protection for hospital care--(1) a 45-day maximum with no deductible or (2) a 180-day maximum with a flat deductible in an amount equal to $2\frac{1}{2}$ times the average daily hospital cost under the program.

The cost estimates were again made on a static basis, with wage levels and hospital costs assumed to remain at 1961 levels.

The average hospital utilization rates used were the same as before. There were available, at the time of this estimate, data from the National Health Survey, but they were not used since rates derived from that study were very close to those developed from the Beneficiary Survey.

The same hospitalization continuance table was used. According to this table, the three options were equivalent in value, so that this feature was deemed to have no cost effect.

The figure used for the average daily cost of hospitalization was $30.40. It was obtained from the 1961 AHA index of $34.98 by reducing it by 13%, which is approximately the same percentage reduction used in the 1961 estimates to adjust the AHA index to yield the estimated average reimbursable hospital-per-diem cost for persons aged 65 and over.

It should be pointed out that the foregoing figure for the average hospital-per-diem cost for persons covered by the proposal did not include an allowance for a "catching-up" factor, as was previously done. In other words, the assumption made was that, following 1961, hospital costs would, on the average, increase no more rapidly than the general earnings level (as indicated previously, if such changes do occur, then it was further hypothesized that the system would be kept up-to-date insofar as the maximum earnings base and the deductibles are concerned). Although it seemed likely that hospital costs would increase somewhat more rapidly than the general earnings level in the next few years, it was presumed that any such differential will, over the long run, be counter-balanced by hospital costs rising less rapidly than will the general earnings level (thus reflecting, as in most other types of economic activity, the productivity gains of the work force involved).

Because the definition of skilled-nursing-facility benefits was more restrictive than before, the level-cost of this benefit was estimated to be only .03% of payroll, and the resulting offset to the cost for hospitalization benefits was estimated to be only .01% (instead of .02% as before).

No change was made in the cost estimates for the other supplementary benefits.

Administrative expenses were estimated to be only 3% of benefits, instead of 5% as before. This reduction was made as a result of studies by administrative personnel of the Social Security Administration.

The following table shows the estimated long-range level-costs and first-year costs (i.e., for 1965 on an accrual basis), by type of benefit, including the accompanying administrative expenses:

Type of Benefit	Level-Cost (as % of Payroll)	First-Year Cost (in millions)
Hospital	.59%*	$1,315
Skilled-Nursing-Facility	.03	30
Home-Health	.05	10
Outpatient-Diagnostic	.01	10
Total	.68	$1,365

* After offset for reduced cost because of availability and use of skilled-nursing-facility and home-health-services benefits.

The above figures for the first year of operation take into account the estimated actual price and earnings-level situation in 1965 (rather than the long-range assumptions in these respects).

Further details of the cost estimates for the 1963 King-Anderson Bill are given in Actuarial Study No. 57.

F. Cost Estimates Made in 1963 on Dynamic Assumptions

In hearings before the House Committee on Ways and Means on November 18, 1963, Chairman Mills asked some very probing questions, which led to a basic change in the assumptions for the cost estimates for hospital and related benefits.

Mr. Mills asked what the level-cost would be if the assumptions that future hospital costs would rise at the same rate as covered earnings levels and that the earnings base and deductible amounts would be increased by future Congresses to conform to the rise in earnings levels were replaced by different assumptions. The revised assumptions would be that the hospital costs and the covered earnings would continue to rise in the future at the same rate of increase as in recent years and that the earnings base and deductibles would remain at the amounts proposed in the King-Anderson Bill. The answer was that the level-cost would be infinite if the increases are projected into perpetuity; however, such assumptions would result in hospital costs ultimately exceeding taxable payroll, which is totally unrealistic.

As a result of Mr. Mills' questioning, calculations of the King-Anderson Bill were made on three diffferent sets of assumptions. The level-cost of the bill would be 21.08% of taxable payroll on the assumptions that both hospital costs and covered earnings rates rise 3% each year into perpetuity, that the earnings base and deductible remain fixed, and that the interest rate is 3¼%. The level-cost would be 1.16% of taxable payroll if the foregoing assumptions are changed only by terminating the increases in hospital costs and in covered earnings in 1985. If the assumptions are changed only to the extent that covered earnings levels rise 3% per year until 1985, and hospital costs rise 7% per year until 1985, with no increases thereafter, the level-cost is 2.37% of taxable payroll.

G. Cost Estimates in 1964

As a result of considering the cost estimates made on dynamic assumptions, a decision was made to adopt more conservative assumptions for future cost estimates. A study of the trend of the differential between hospitalization costs and covered earnings indicated that the level-cost for the hospital benefits portion of the 1963 King-Anderson Bill should be increased 10% to reflect changes between 1961 and 1965. It was further assumed that there would be another 10% increase in the level cost of the benefits due to the cumulative difference in the trends of hospital costs and covered earnings after 1965. The supplementary benefits were assumed to have increased in cost since 1961, and to increase in the future, in exact parallel with the covered wage levels. It was also assumed that the earnings base would be kept up-to-date. This is tantamount to making no change in the estimated level-costs for these supplemental benefits.

A paper by Anthony J. Houghton in the Transactions, Volume XV, entitled "Continuance Study of Hospital Claims on Individually Underwritten Lives Age 65 and Over", indicated that the costs of the 45-day and 180-day options in the King-Anderson Bill were higher than the cost of the 90-day option. On the basis of the static assumptions, the level-cost of the 1963 King-Anderson Bill was therefore increased from .68% of taxable payroll to .70% of taxable payroll, consisting of .61% for the hospital benefits and .09% for the supplementary benefits.

Therefore, under the new assumptions, the level-cost of the HI program was 120% of .61% plus .09%, or .82% of taxable payroll. It must be noted that this level-cost of .82% of taxable payroll is on the assumption that the earnings base will be kept up-to-date with what $5,200 was in 1961. This was equivalent to an earnings base of $5,800 in 1965.

H.R. 11865 was the bill which passed the House in 1964 that amended the Social Security Act, but it contained no provision for hospital benefits. It specified an earnings base of $5,400. The estimated level-cost of the King-Anderson Bill on a $5,400 earnings base was .84% of taxable payroll (taking into account the fact that this earnings base was lower than the foregoing $5,800, which was necessary to keep the earnings base up-to-date). The cost of adding the King-Anderson Bill to H.R. 11865 was .85%, the .01% increase being due to a transitional provision giving coverage to certain persons aged 65 or over who did not work long enough in covered employment to meet the then-present work requirements for benefit payments.

At that time, two additional estimates were prepared on other assumptions. Although these latter two estimates were believed to be based on assumptions which were too conservative to be realistic, they are included in Table 6 for comparison purposes.

The Senate Finance Committee considered adding the hospital benefits of the King-Anderson bill to H.R. 11865, but voted against it. However, an amendment proposed by Senator Gore was added when the bill was on the floor of the Senate. In addition to slightly modifying the OASDI benefits, this amendment provided a $5,600 earnings base and the hospital benefits of the King-Anderson Bill with two modifications. One difference was that skilled-

Table 6

SUMMARY OF COST ESTIMATES FOR 1963 KING-ANDERSON BILL
UNDER VARIOUS COST ASSUMPTIONS

	Assumptions as to Earnings Base	Assumptions as to Relative Trends of Hospitalization Costs and Earnings	Estimated Level Cost[a]
1.	Keeps up-to-date with what $5,200 was in 1961	Over the long range, hospitalization costs and earnings increase at same rate from 1961 on	.68%[b]
2.	Keeps up-to-date with what $5,400 will be in 1965	Past experience projected to 1965; in next 5 or 6 years, hospitalization costs rise more rapidly than earnings--by a total differential of 10%; thereafter, hospitalization costs and earnings rise at same rate	.85%
3.	Keeps up-to-date with what $5,400 will be in 1965	Past experience projected to 1965; in next 10 years, hospitalization costs rise more rapidly than earnings--by 3% per year; thereafter, hospitalization costs and earnings rise at same rate	1.04%
4.	Remains at $5,400	Past experience projected to 1965; in next 10 years, hospitalization costs rise more rapidly than earnings--by 3% per year; thereafter, hospitalization costs and earnings rise at same rate	1.35%

a/ Expressed in terms of percentage of taxable payroll.

b/ From Actuarial Study No. 57.

nursing (now called extended-care) facility benefits were limited to 60 days, instead of the 180 days provided in the King-Anderson Bill. The other difference was the inclusion of a dynamic cost-sharing provision, which would provide for a payment for each day of hospitalization by the beneficiary, beginning in 1969, so as to protect the HI Trust Fund from a percentage rise in the per-diem hospital cost greater than the percentage rise in average wage rates.

Specifically, under such circumstances, the dynamic cost-sharing provision would operate so that a uniform amount would be payable by each beneficiary for each day of hospitalization. For 1969-70, this amount would be determined by subtracting (a) $36 times the ratio of the average of the earnings bases to be effective in 1969-70 to $5,600, from (b) the average daily hospital cost under the program in 1966-67 (such average cost including notonly room and board charges, but also charges for all applicable special services). It may be noted that the $36 figure in the formula represents the estimate of the average daily hospital costs that would have resulted under the program if it had been in effect in 1964-65. Furthermore, the result obtained under the foregoing formula would be rounded to the nearest multiple of $2.

The working of this formula may be clearer if an actual example is given. Assume that the average daily hospital cost under the program for 1966-67 is $41.22 (representing an annual rate of increase of 7% for the 2-year period involved between 1964-65 and 1966-67). First, assume that the earnings base remains at $5,600 from 1965 through 1970; then, the cost-sharing payment is $6 per day of hospitalization, which is derived as follows:

$$\$41.22 - \$36 \times \frac{\$5,600}{\$5,600} = \$5.22, \text{ which when rounded becomes } \$6.$$

Second, assume that the earnings base scheduled (as of 1968) for 1969 is $5,600, but this is to rise to $6,000 in 1970; under these circumstances, the daily cost-sharing payment would be $4, which is derived as follows:

$$\$41.22 - \$36 \times \frac{\$5,800}{\$5,600} = \$3.93.$$

It will be recalled that, at this stage, the cost estimate included an assumption that there would be a 10% increase in the level-cost due to the the cumulative difference in hospital costs and wages after 1965. Because of the dynamic cost-sharing provision, this 10% increase could be eliminated. In other words, the cost-reduction effect of the dynamic cost-sharing provision was .07% of taxable payroll.

The reduction in HI benefit costs due to increasing the earnings base from $5,400 to $5,600 and due to reducing the maximum number of extended-care-facility days was .01% of taxable payroll from each source. The level-cost of hospital and supplemental benefits provided by the Gore Amendment was therefore less than the level-cost of the King-Anderson Bill by .09% of taxable payroll, the result being a level-cost of .76% of taxable payroll.

The bill died in conference between the House and the Senate, because the conferees could not reach agreement on the differing versions of the bill, particularly the hospital benefits.

H. Cost Estimates of Hospital Insurance Benefits Recommended by Advisory Council on Social Security

As required by law, the Advisory Council on Social Security was appointed by the Secretary of Health, Education, and Welfare in 1963. Its report was transmitted on January 1, 1965 and is entitled "The Status of the Social Security Program and Recommendations for its Improvement".

The Council proposed a hospital insurance program similar to the 1963 King-Anderson Bill. The significant differences were as follows:

(1) There would be no options as to maximum duration of hospital benefits, 60-day maximum with a ½ day deductible.

(2) Extended care benefits would be available to the extent of 2 days of care for each day of hospital care used less than 60 days, with a minimum of 30 days.

(3) Home nursing services would be available to the extent of 200 to 300 professional visits a year.

(4) The deductible for outpatient diagnostic services would be the same as that for hospital services and would be applied for each 30-day period during which such services are provided.

(5) Coverage would be provided both to beneficiaries with long-term disabilities and to certain uninsured persons aged 65 and over under a transitional provision.

(6) The program would be financed by a tax rate of .4% of earnings each from employees and employers, .5% from the self-employed, and .15% from Federal general revenues, the latter contribution terminating in 50 years (its purpose being to meet approximately the cost for the uninsured beneficiaries and for the initial group of insured beneficiaries, who had contributed little, if at all, to the HI system).

(7) The earnings base would be $6,000 in 1966-67 and $7,200 thereafter.

(8) Benefits would begin July 1, 1966.

The cost assumptions made in the actuarial estimates were as follows:

(1) The cost estimate would cover only a 75-year future period.

(2) Long-range costs would be on a static basis, but would assume that per diem hospital costs would rise 2.7% per year for the first 5 years after 1965, would rise an average of 1.35% per year for the subsequent 5 years, and would decrease at an annual rate of .5% after 1975. (It should be noted that the Report of the Council is in error when it implies on page 104 that the decrease does not begin until 1980.)

(3) Intermediate hospital utilization rates were derived by averaging the high and low estimates that were derived from the 1957 Survey of Beneficiaries, except that the low-cost rates (approximately 10% less than the intermediate rates) were used in 1966 and 1967 and were graded into the full intermediate rates in 1975.

(4) It was assumed that the hospital utilization rates for the disabled would be the same as the average rate for the population aged 65 and over. This assumption seemed reasonable because, before a person qualifies for disability benefits, his disability must have been in existence for 6 months, and a relatively small portion of the hospitalization caused by the disability was believed to occur after the 6-month period.

(5) As was done in previous estimates, the per diem hospital cost used was the AHA figure reduced by 13%. Because the estimates were based on 1963 earnings levels, the 1963 AHA figure was increased by $(1.027)^2$ to yield the 1965 per diem rate, so as to reflect the 2-year difference in the increases in the per diem hospital cost rate and the wage rates.

(6) The products of the utilization rates and the per diem hospital costs were applied, on the appropriate age-sex-duration basis, to the projection of the eligible population by age, sex, and 5-year durations, as derived for OASDI cost estimates for the 1964 Trustees Report.

(7) The non-insured population was projected on a cohort basis by using appropriate survival rates, and their utilization rates by age and sex were assumed to be the same as for the insured population.

(8) The interest rate was assumed to be $3\frac{1}{2}\%$ for calculating level-costs, but in developing the progress of the trust fund a varying rate in the early years was used.

(9) Short-range cost estimates were prepared on the assumption that there would be a 3% annual increase in wage rates, with the differential between the rise in hospital costs and earnings levels being maintained as assumed in the long-range cost estimates.

(10) There were no changes in the estimates for supplementary benefits from those made for the 1963 King-Anderson Bill.

(11) Administrative expenses again were assumed to be 3% of benefits.

The results of the cost estimates are shown in Tables 7 and 8.

Table 7

ESTIMATED PROGRESS OF HOSPITAL INSURANCE TRUST FUND
UNDER PROGRAM PROPOSED BY ADVISORY COUNCIL, INTERMEDIATE-COST ESTIMATE
[In millions]

Calendar Year	Contributions from Worker and Employer	Contributions from Government	Benefit Payments and Administrative Expenses 1/	Interest on Fund	Balance in Fund at End of Year
			Estimated data (short-range estimate)		
1966	$1,808	$339	$1,007	$29	$1,169
1967	2,219	430	2,204	47	1,661
1968	2,389	464	2,438	65	2,141
1969	2,513	489	2,683	81	2,541
1970	2,597	506	2,958	93	2,779
1971	2,676	520	3,201	98	2,872
1972	2,760	538	3,456	98	2,812
			Estimated data (long-range estimate)		
1975	$2,634	$510	$3,031	$195	$6,132
1980	2,842	552	3,295	251	7,795
1990	3,254	632	3,835	381	11,677
2000	3,776	732	4,052	621	19,006

1/ The net payment to (or from) the railroad retirement system is included here.

Note: Contributions include reimbursement for additional cost of noncontributory credit for military service.

Table 8

ESTIMATED ACTUARIAL BALANCE OF HOSPITAL INSURANCE PROGRAM PROPOSED BY ADVISORY COUNCIL
(Costs expressed as percentage of taxable payroll according to intermediate-cost estimates)

Item	Level-Cost
Level-Cost Effect of Changes:	
Hospital benefits, 60-day maximum, ½-day deductible	+.84
Extended care services, 30-day maximum[1/]	+.02
Outpatient diagnostic services, deductible of ½-day hospital cost	+.01
Home nursing services, 240-visit maximum	+.03
Level-Cost of Proposed Program	.90
Level-Equivalent of Contribution Schedule[2/]	.90
Actuarial Balance	.00

1/ With additional days if all of hospital benefits are not used.
2/ The 0.15 percent of payroll from general revenues for 50 years is equivalent to a level rate of 0.10 percent of payroll.

I. Cost Estimates for 1965 Administration Proposal

On January 4, 1965, Congressman King introduced H.R. 1 which contained provisions for hospital insurance and other amendments to the Social Security Act. An identical bill, S. 1, was introduced by Senator Anderson on January 6.

The hospital insurance benefits provided were as follows:

(a) 60 days of semi-private hospital care within a "benefit period", with a flat deductible of an amount which was approximately equal to the average daily hospital cost under the program.

(b) 60 days of post-hospital extended care within a "benefit period", when such services are furnished following transfer from a hospital and are necessary for continued treatment of a condition for which the individual was hospitalized. Such care would be furnished in an "extended care facility", which is an institution that has in effect a transfer agreement with a hospital (or is under common control with a hospital).

(c) 240 home health service visits during a calendar year.

(d) Outpatient hospital diagnostic services during a 30-day period in excess of a deductible equal to 50% of the hospital deductible.

The term "benefit period" means the period beginning with the first day that an individual receives hospitalization benefits and ending with the 90th day thereafter during each of which he has not been a patient in a hospital or an extended care facility (but such 90 days must occur within a 180-day period). The benefits would first be available in July 1966, except for post-hospital extended care benefits, which would first be available in January 1967.

These hospital benefits were to be available to all persons who are aged 65 or over and are entitled to monthly benefits. The same benefit protection would be available to beneficiaries under the Railroad Retirement system.[e/] Persons who are beneficiaries under both systems would, of course, not receive "double" benefits. The employer and employee contribution rates under RR would be increased by the same amount as under the OASDI system, but the taxable wage base would not be changed from the then-prevailing $450 per month. The financial interchange provisions[f/]

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e/ However, Railroad Retirement beneficiaries would have certain additional benefit protection in that, under certain circumstances, the benefits would be available in Canada.

f/ For a description of these provisions, see pages 74 and 80-82 of the 24th Trustees Report (House Document No. 236, 88th Congress).

would apply, so that, in essence, the OASDI system would be "reinsuring" the hospital benefit experience of the RR system, which would neither gain nor lose as a result of the actual experience. The RR system would, of course, have to provide out of its existing financing the equivalent income representing the effect of the difference between its earnings base and the OASDI base.

Likewise, the hospital benefit protection would be provided to any person aged 65 and over on July 1, 1966 who is not eligible as an OASDI or RR beneficiary and who (a) is not an employee of the Federal Government or a retired Federal employee who is eligible for FEHBA benefits, (b) is not a member of a subversive organization and has not been convicted of subversive activities, and (c) is a citizen or has had at least 10 years of continuous residence. Persons meeting such conditions who attain age 65 before 1968 also qualify for the hospital benefits, while those attaining age 65 after 1967 must have some OASDI or RR coverage to qualify. This transitional provision "washes out" for men attaining age 65 in 1974 and for women attaining age 65 in 1972, since the fully-insured-status requirement for monthly benefits for such categories is then no greater than the special-insured status requirement. The benefits for the "non-insured" group are paid from the HI Trust Fund, but with full reimbursement therefor from the General Treasury.

The cost of benefits to the OASDI insured persons would be financed by a combined employer-employee tax rate of .60% in 1966, .76% in 1967 and 1968, and .90% thereafter, with the self-employed paying half these rates. These tax rates would be applied to an earnings base of $5,600.

The assumptions made were identical to those made for the Advisory Council estimate. This resulted in the same benefit-outgo estimates as were derived for that estimate except that there were not included benefits for disabled and non-insured beneficiaries (for the purposes of obtaining a level-cost estimate), and the estimate was adjusted to reflect the deductible being changed to be the equivalent of about 1 day's per diem cost (rather than ½ day).

The following table shows the estimated long-range level-costs and first-year costs (i.e., for fiscal year 1967 on an accrual basis) by type of benefit, including the accompanying administrative expenses:

Type of Benefit	Level-Cost* (as % of payroll)	First-Year Cost (in millions)
Hospital	.75%(.78%)	$1,670
Post-Hospital Extended Care	.03 (.02)	30
Home Health Services	.05 (.03)	10
Outpatient Diagnostic	.01 (.01)	10
Total	.84	1,720

*Cost for hospitalization benefits is shown after offset for the reduced cost because of the availability and use of extended-care-facility and home-health-services benefits. Figures in parentheses are on the basis of "net additional cost" for the three auxiliary benefits.

The figures for the first year of operation take into account the estimated actual price and earnings-level situation in 1966-67, rather than the long-range assumptions in these respects.

The following table compares the estimates of the number of persons aged 65 and over affected by the proposal as of the middle of 1966 (in millions):

Category	Estimates
Total Population	19.05[a]
OASDI Insured	16.05
Railroad Retirement Insured[b]	.60
Eligible Noninsured	2.00
Not Eligible[c]	.40

a/ Including allowance for an estimated 500,000 underenumeration in the projected census estimates.

b/ Does not include about 250,000 individuals who are "insured" under both OASDI and Railroad Retirement (shown in the preceding line).

c/ Consists primarily of those who are protected under the Federal Employees Health Benefit Act or the Retired Federal Employees Health Benefits Act (also includes certain non-insured persons who do not meet the residence or citizenship requirements or who are members of a subversive organization or have been convicted of a serious offense involving subversive activities).

Table 9 shows the estimated operations of the HI Trust Fund under the 1965 King-Anderson Bill in various future years, according to both the short-range and long-range cost estimates. Under the latter, the trust fund grows steadily over future decades, although somewhat slowly between 1975 and 1990--such trend resulting from the assumptions made as to average daily hospital costs. Under the short-range estimate, the trust fund increases slowly for the first few years and represents somewhat more than ½ year's outgo at the end of 1970. A decline in the trust fund balance is indicated after 1971, resulting from the fact that, in this estimate, both hospital costs and earnings levels are assumed to increase steadily, but no change is assumed to be made in the earnings base to keep it up-to-date.

Table 9

ESTIMATED PROGRESS OF HOSPITAL INSURANCE TRUST FUND UNDER 1965 KING-ANDERSON BILL, INTERMEDIATE-COST ESTIMATES[a/]
(in millions)

Calendar Year	Contributions	Benefit Payments and Administrative Expenses[b/]	Interest on Fund[a/]	Balance in Fund at End of Year
		Estimated Data, Short-Range Estimate		
1966	$1,328	$818	$15	$525
1967	1,994	1,799	18	738
1968	2,135	2,001	24	896
1969	2,545	2,221	33	1,253
1970	2,690	2,465	45	1,523
1971	2,769	2,700	51	1,643
1972	2,850	2,946	52	1,599
		Estimated Data, Long-Range Estimate		
1975	$2,729	$2,657	$136	$4,320
1980	2,946	2,969	165	5,166
1990	3,373	3,525	193	5,975
2000	3,913	3,720	261	8,185

a/ An interest rate of 3.5% is used in determining the level-costs, but in developing the progress of the trust fund, a varying rate in the early years has been used, which is equivalent to such fixed rate.

b/ The net payment to (or from) the Railroad Retirement Account is included here.

Note: Contributions include reimbursement for additional cost of non-contributory credits for military service. Not reflected in this table are the transactions between the General Treasury and the trust fund with respect to the "non-insured" group that is blanketed-in and the benefit payments with respect to this group (and the resulting additional administrative expenses).

Table 10 shows corresponding figures for the low-cost and high-cost estimates. These have been derived merely by assuming a 15% range in benefit costs around the intermediate-cost estimate. About 10% of this range can be attributed to the spread between the low-cost and high-cost estimates of hospital utilization rates (see Table 2), and the remainder can be attributed to other factors (including those prevailing in the cash-benefits portion of the program).

It should be especially noted that the operations of the HI Trust Fund are shown on the basis that they do not include the transactions for the "non-insured" or blanketed-in group. Furthermore, the benefit disbursement figures include only the net effect of the coverage of the beneficiaries of the Railroad Retirement system for the HI benefits, while the contribution figures do not include the HI contributions collected on railroad payrolls.

The cost estimates for the 1965 King-Anderson Bill, H.R. 1 (including those for the liberalizations of the OASDI program) were published in Actuarial Study No. 59.

Table 10

PROGRESS OF HOSPITAL INSURANCE TRUST FUND UNDER 1965 KING-ANDERSON BILL
LOW-COST AND HIGH-COST ESTIMATES
(in millions)

Calendar Year	Contributions	Benefit Payments and Administrative Expenses[a]	Interest on Fund[b]	Balance in Fund at End of Year
		Low-Cost Estimate		
1975	$2,729	$2,258	$269	$7,891
1980	2,946	2,524	412	11,866
1990	3,373	2,996	768	21,748
2000	3,913	3,162	1,342	37,816
		High-Cost Estimate		
1975	$2,729	$3,056	$21	$815
1980	2,946	3,414	[c]	[c]

a/ The net payment to (or from) the Railroad Retirement system is included here.

b/ At interest rates of 3.75% for the low-cost estimate and 3.25% for the high-cost estimate.

c/ Fund exhausted in 1978.

Note: Contributions include reimbursement for additional cost of noncontributory credits for military service.

J. Cost Estimates Made in Early 1965 for Committee on Ways and Means

The House Committee on Ways and Means held executive hearings on H.R. 1 in January and February, 1965. Chairman Mills requested cost estimates for several possible changes in the hospital insurance program, with changed assumptions on which the cost estimates were made. As a result of this request, a trust fund projection was prepared on the following bases.

(1) Benefits would be the same as those under H.R. 1, except that there would be a 90-day maximum for hospital benefits, with a $100 deductible (adjusted in the future for changing hospital costs), and post-hospital home health services were limited to 100 visits. It was estimated from the continuance table data that the cost of a 90-day maximum with a deductible of $100 (on a dynamic basis) is equal to the cost of 60 days with a 1-day deductible. The deliberalization of home-health benefits was estimated to result in a reduction in cost equivalent to 2% of the total cost of the program.

(2) The earnings base was to remain at $5,600 for 10 years and then increase $600 every 5 years.

(3) Estimates would be made on short-range assumptions--i.e., earnings would be assumed to rise at 3% per year throughout the range of the projection.

(4) The assumption that wages would rise faster than hospital costs after 1975 was replaced by the assumption that both would then rise at the same rate. The 2.7% differential in the first 5 years and the average 1.35% differential in the next 5 years was retained.

(5) The range of the projection was to be only 25 years. It was believed that this was about the longest period of projection that would be plausible and reasonable, considering the many possible changes in medical services and procedures that can occur in the future. Also, this period was selected because the ratio of people over age 65 to those under age 65 rises slowly but steadily during this time and then begins to decline after 1900 and does so for about the next 15 years, before again rising.

(6) The assumption of low-cost hospital experience in the first 10 years was eliminated.

(7) Total benefit outgo was increased by 10%, which could be said to represent a 10% safety margin in the utilization rates. The combined result of this assumption and the previous one was, therefore, an increase of approximately 20% in the first two years, grading into a 10% increase beginning in 1975.

(8) Invested assets of the fund were assumed to earn 4% in the first 5 years and to grade into 3½% in 1975 and thereafter.

(9) The contribution schedule was as follows:

Calendar Year	Employer-Employee Rate	Self-Employed Rate
1966-69	.9%	.675%
1970-73	1.0	.750
1974-83	1.2	.900
1984-90	1.4	1.050

This estimate showed the following results for selected years (in millions):

Calendar Year	Contributions	Benefits and Administrative Expenses	Interest	Fund at End of Year
1966	$1,992	$983	$26	$1,035
1970	2,961	2,841	56	1,800
1975	4,278	4,091	58	2,224
1980	5,203	5,433	81	2,829
1985	7,259	7,073	63	2,653
1990	8,652	9,113	73	2,851

The level-cost of the benefits on the above projection was 1.16% of taxable payroll.

A number of different variations in earnings bases were considered and tested, a description of each of which is as follows:

(1) Level at $5,600 for entire period.

(2) Level at $5,600 for 10 years and rising 3% per year thereafter.

(3) Level at $5,600 for 10 years, rising to $6,800 in the eleventh year and then increasing 3% per year thereafter.

(4) Level at $5,600 for 5 years, level at $6,200 for next 5 years, rising to $6,800 in the eleventh year, and then increasing at 3% per year thereafter.

(5) Level at $5,600 for 5 years and rising by a factor of $(1.03)^5$ in the sixth year and in each fifth year thereafter.

(6) Level at $5,600 for 5 years, increasing 10% in the sixth year, and then increasing 10% each fifth year thereafter.

(7) Rising 3% each year, from $5,600 in the first year.

(8) Level at $5,600 for 10 years and rising $600 in the eleventh year and in each fifth year thereafter (this being the basis of the projection presented at the beginning of this section).

(9) Level at $5,600 for 5 years and rising at 3% per year thereafter.

A year-by-year comparison of benefits to taxable payroll was made on each of these bases. The following table gives these ratios for each basis, in the same order as given above:

Calendar Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1967	.80%	.80%	.80%	.80%	.80%	.80%	.78%	.80%	.80%
1970	.95	.95	.95	.95	.95	.95	.89	.95	.95
1975	1.15	1.15	1.15	1.08	1.05	1.08	.99	1.15	1.05
1980	1.34	1.22	1.11	1.11	1.12	1.19	1.05	1.25	1.12
1985	1.55	1.28	1.16	1.16	1.18	1.29	1.11	1.36	1.18
1990	1.80	1.33	1.21	1.21	1.22	1.38	1.15	1.47	1.22
Level-cost	1.25%	1.14%	1.07%	1.06%	1.04%	1.11%	1.01%	1.16%	1.07%
Total-cost*	1.31	1.19	1.12	1.11	1.09	1.16	1.06	1.22	1.12

* It was desired that the fund in 1990 be approximately equal to the benefit payments in that year. The discounted value of such a fund was .05% of the present values of the taxable payrolls in all cases except for the bases in columns (1) and (8) above, where the figure was .06%.

On March 29, 1965, the Committee on Ways and Means reported out H.R. 6675, which contained a program of hospital and related benefits that differed significantly from that contained in H.R. 1 only insofar as indicated in the following:

(1) Payment would not be made for the hospital services of radiologists, anesthesiologists, pathologists, and physiatrists. It was estimated that the effect of this exclusion would result in a reduction in costs equal to 4% of total benefit outgo.

(2) Post-hospital extended care benefits were modified to provide payments for maximum stays of from 20 to 100 days, depending on the length of prior stay in a hospital (required to be at least 3 days). This change was estimated to have no change in cost.

(3) Benefits for home health services were limited to 100 visits. As mentioned previously, this change resulted in a reduction in cost equivalent to 2% of total benefit outgo.

(4) The deductible for outpatient diagnostic services benefits would be credited against the hospital deductible under certain conditions. This was estimated to result in an increase in costs equivalent to 2% of total benefit outgo.

It should be noted that, unlike previous proposals under which self-employed persons would pay 75% of the combined employer-employee tax rate and under which Railroad Retirement beneficiaries would receive benefits through the financial interchange, H.R. 6675 specified that the self-employed tax rate would be the same as the employee rate only and that railroad workers would contribute and would receive hospital benefits directly from the HI system.

The earnings base specified by H.R. 6675 was $5,600 for 1966-70 and $6,600 thereafter. The contribution schedule in the bill is given below:

Calendar Year	Employer-Employee Rate	Self-Employed Rate
1966	.70%	.35%
1967-72	1.00	.50
1973-75	1.10	.55
1976-79	1.20	.60
1980-86	1.40	.70
1987 and thereafter	1.60	.80

There were no changes in assumptions for the cost estimates of the program from those used in making the cost estimate described at the beginning of this section. In other words, the level-cost and the year-by-year projection of the operations of the program were computed on the same basis as described there, except for changes due to differences in the benefit provisions.

The estimate showed the following results for selected years (in millions):

Calendar Year	Contributions	Benefits and Administrative Expenses	Interest	Fund at End of Year
1966	$1,578	$1,033	$17	$562
1970	2,983	2,925	50	1,633
1975	4,267	4,139	84	2,950
1980	6,123	5,434	140	5,018
1985	7,038	7,028	236	7,681
1990	9,030	9,017	306	9,948

The level-cost of the benefits was 1.17% of taxable payroll, and the discounted value of the fund equal to one year's benefit outgo in 1990 was .06%, so that the total level-cost of the program was 1.23% of

taxable payroll. It can be seen from the sizes of the benefit outgo and the fund in 1990 that, since they are approximately equal, the present value of the contributions provided by the tax schedule is also 1.23%, so that the program would be in actuarial balance.

Further details in regard to H.R. 6675 and the cost estimates for it are contained in House Report No. 213, 89th Congress, 1st Session. This bill passed the House.

K. Cost Estimates for Senate Finance Committee Bill, Senate Bill, and Public Law 89-97

The Senate Finance Committee in considering H.R. 6675 used the same assumptions for the HI cost estimates as did the House. This committee recommended amending the HI program of H.R. 6675 in the following respects:

(1) The exclusion of payments for the hospital services of radiologists, anesthesiologists, pathologists, and physiatrists was eliminated. This change added 4% to the cost (a level-cost of .05% of taxable payroll).

(2) The allowance for crediting the outpatient deductible against the hospital deductible was eliminated. This change reduced the cost by 2% (or .02% of taxable payroll on a level-cost basis).

(3) A provision for benefits for stays in psychiatric hospitals, up to a lifetime maximum of 210 days, was added. The level-cost of this provision was estimated to be .01% of taxable payroll.

(4) A provision for extending hospital stays from 60 days to 120 days with a cost-sharing provision equal to one fourth of the hospital deductible for each day in excess of 60 days was added. The level-cost of this provision was estimated to be .04% of taxable payroll. It might be noted that the percentage by which this provision increased the cost (about 3%) is less than the percentage obtained from the continuance table in the Houghton paper (about 6%). The reason is that the additional days occur after very long stays, when the daily cost is lower than for those days occurring earlier in the stay, and this effect is magnified by the cost-sharing provision.

(5) The maximum number of home health service visits was increased from 100 to 175. The level-cost of this change was .01% of taxable payroll.

The earnings base was increased by the bill to $6,600 in all future years, which provided a reduction in equivalent level-cost of .01% of taxable payroll. The level-cost of the bill reported out of the Senate Finance Committee was therefore 1.31% of payroll. It would be financed by the increase in the earnings base to $6,600 in all years and by revising the contribution schedule by increasing the contribution rate by an additional .1% of earnings in all years after 1970 (there was also a reduction in 1966 of .05%).

The Senate approved the Finance Committee bill after eliminating the requirement of prior hospitalization for home health service benefits and the maximum on the number of days for which hospital benefits would be available. Each of these two liberalizations were estimated to have a level-cost of .02% of taxable payroll. The cost of the bill was, therefore, 1.35% of taxable payroll, and the tax schedule was revised accordingly by increasing the contribution rate by an additional .1% of earnings in the years from 1973 to 1986.

Most of the changes made by the Senate were eliminated by the Conference Committee. The final provisions agreed on by this committee were substantially the same as contained in the bill passed by the House, with the following exceptions:

(1) A provision for benefits for stays in psychiatric hospitals up to a lifetime maximum of 190 days (reduced from 210 days in the Senate bill) was added. The increased cost was .01% of taxable payroll.

(2) The limit on hospital stays was extended from 60 to 90 days (reduced from no limit in the Senate bill), with a cost-sharing provision equal to one fourth of the hospital deductible for each day in excess of 60 days. The added cost was estimated to be .02% of taxable payroll.

(3) The outpatient diagnostic benefits provision was made subject to 20% cost-sharing. The level-cost was reduced by .002% of taxable payroll.

A reappraisal of the cost of benefits on behalf of Railroad Retirement beneficiaries revealed that the level-cost of the program for the bill previously passed by the House had been overstated by approximately .02% of taxable payroll. The effect of this correction, the reduction of .01% of taxable payroll due to the increase in the earnings base to $6,600 in all years, and the net cost of the changes listed above resulted in no change in the level-cost of the Hospital Insurance portion of Public Law 89-97 from the figure of 1.23% of taxable payroll that was published for H.R. 6675 when it was passed by the House.

A separate cost estimate for the extended care facility benefits was not made because of the lack of information as to the degree that hospital benefits would be reduced if extended care benefits would be higher than expected. From a cost standpoint, it therefore seemed desirable to consider hospital benefits and extended care benefits in combination.

The actuarial balance of the hospital insurance system may be summarized as follows (in percentages of taxable payroll):

Item	Level-cost
Hospital and extended care facility benefits	1.19%
Outpatient diagnostic benefits	.01
Home health service benefits	.03
Total benefits	1.23
Level-equivalent of contributions	1.23
Actuarial balance of system	.00

The estimated progress of the hospital insurance trust fund is shown in Table 11.

The benefits for the "noninsured" group would be paid from the HI Trust Fund, but with reimbursement therefor from the general fund of the Treasury on a current basis, or even in advance for the fiscal year, at the beginning thereof or at later dates.

Table 11

ESTIMATED PROGRESS OF HOSPITAL INSURANCE TRUST FUND UNDER PUBLIC LAW 89-97, INTERMEDIATE-COST ESTIMATE AT 3.50% INTEREST[1]
(In millions)

Calendar Year	Contributions	Benefit Payments	Administrative Expenses	Interest on Fund	Balance in Fund at End of Year
1966	$1,637	$987	$50[2]	$18	$618[3]
1967	2,756	2,210	66	25	1,123
1968	3,018	2,406	72	46	1,709
1969	3,123	2,623	79	66	2,196
1970	3,229	2,860	86	82	2,561
1971	3,329	3,077	92	91	2,812
1972	3,433	3,303	99	95	2,938
1973	3,891	3,540	106	100	3,283
1974	4,096	3,788	114	108	3,585
1975	4,260	4,047	121	112	3,789
1980	6,113	5,307	159	166	5,790
1985	7,026	6,860	206	259	8,341
1990	9,015	8,797	264	323	10,426

1/ An interest rate of 3.50% is used in determining the level-costs, but in developing the progress of the trust fund, a higher rate is used in the first 10 years (4.0% for 1966-70, and then a gradually decreasing rate).
2/ Includes administrative expenses incurred in 1965.
3/ Balance as of June 30, 1965 (before payment of benefits begins), is $715 million.

Note: The transactions relating to the noninsured persons who would be covered for the benefits of this program, the cost for whom is borne out of the general funds of the Treasury, are not shown in the above figures.

The estimated cost to the general fund of the Treasury for the hospital and related benefits for the noninsured group is as follows for the first 5 calendar years of operation (in millions):

Calendar Year	Cost to General Treasury
1966 (last 6 months)	$140
1967	278
1968	272
1969	264
1970	256

The cost to the general fund of the Treasury decreases slowly for the closed group involved. Offsetting, in large part, the decline in the number of eligibles blanketed-in is the increasing hospital utilization per capita (as the average age of the group rises) and the increasing hospitalization costs in future years.

Additional information about the cost estimates for Public Law 89-97 is contained in a study prepared for the House Committee on Ways and Means by Robert J. Myers, Actuary to the Committee. It is dated July 30, 1965 and is entitled, "Actuarial Cost Estimates and Summary of Provisions of the Old-Age, Survivors, and Disability Insurance System as Modified by the Social Security Amendments of 1965 and Actuarial Cost Estimates and Summary of Provisions of the Hospital Insurance and Supplementary Medical Insurance Systems as Established by Such Act".

Finally, for purposes of the record, there will be given the average hospital admission rate, the average duration of hospitalization, and the average hospital utilization rate that were used in these cost estimates.

Under these cost estimates, modifications in the assumptions were made as compared with those used initially for the 1965 Administration proposal. Instead of using the low-cost utilization rates for the early years and moving up to the intermediate-cost rates over a period of several years, the latter were used from the start. In addition, a 10% safety factor was added in, which was intended initially to apply to the average utilization rate (rather than to the element of average daily cost) and was interpreted to apply to the average admission rate, rather than to the average duration of hospitalization. Of course, the result would have been the same if it had been assumed that the average duration would be 10% higher and the average admission rate would be the same as under the actual assumption that the average admission rate would be 10% higher and the average duration of hospitalization would be the same--but the latter assumption seems more plausible. This 10% increase had the same result as if the high-cost admission rate had been used in all years.

Under the foregoing basis, the following results are obtained. First, the average duration of hospitalization is 14.55 days--based on the average duration of 13.86 days for a 60-day maximum benefit period (from Table 5 of Actuarial Study No. 59) times the adjustment factor of 1.05 for a 90-day maximum benefit period (based on the Houghton paper mentioned on page 28, and also in item (4) on page 46). It should be noted that this

average duration is intended to represent the average number of days of hospitalization in a calendar year with respect to all persons who are hospitalized during the year. Second, the average hospital utilization rate is 3.16 days per year per eligible person (whether or not hospitalized)--based on the high-cost utilization rate of 3.01 days for a 60-day maximum benefit period (as shown in Table 2 of Actuarial Study No. 59) times the foregoing factor of 1.05 to allow for a 90-day maximum benefit period. Finally, the average admission rate--actually, the proportion of eligible persons who are hospitalized during a calendar year--is obtained by dividing the average hospital utilization rate by the average duration of hospitalization, with the result being a rate of 217 per 1,000 eligibles.

L. Recapitulation of Development of Basic Assumptions

This section is a summary of the development of the basic assumptions underlying the cost estimates of various Hospital Insurance proposals that were made under the direct and full responsibility of the Office of the Actuary and of the reasons for changing these assumptions at different stages of this development.

It will be recalled that the long-range cost estimates for the first two King-Anderson Bills (as well as the cost estimates for the previous proposals that were made by the Office of the Actuary on the basis of average costs of hospital benefits per eligible prepared by the Division of Program Research) were based on the following assumptions:

(1) There would be no future changes in average hospital-per-diem cost or in covered earnings rates.

(2) In calculating present values of contributions and benefits, the period used was perpetuity.

As was discussed previously, the assumption that benefits and contributions would be based on static conditions was reasonable, because it was expected that hospital costs and earnings levels would tend to rise in the future at approximately the same rates and that future Congresses would adjust upward the deductible amounts and the taxable earnings base at approximately the same rates as hospital costs and earnings levels rose in the future.

It should be noted that assuming static conditions is not exactly equivalent to assuming dynamic conditions for purposes of obtaining a level-cost as a percentage of taxable payroll, for two reasons:

(1) The fund which is developed is, in both cases, on a static basis; i.e. if both benefit and contribution levels are increased proportionally, the fund is nevertheless not increased in the same proportion.

(2) The ratio of benefits to taxable payroll is not constant for all years.

In other words, the level-cost of the Hospital Insurance program is somewhat higher on a dynamic basis than on a static basis because of two reasons. The first is the dampening effect of the fund. The second is the long-term trend toward an increasing ratio of persons aged 65 and over to persons at the working ages, 20-64 (except for the significant decline for the years from approximately 1990 to 2005, due to the low birth rates in the decade of economic depression prior to World War II). This trend gives relatively greater weight to the later, higher-cost years under dynamic assumptions than under static assumptions.

However, the difference in the level-costs on the two different bases is not significant. This is due to the relatively small size of the fund developed and the fact that the increase in the ratio of benefits to taxable payroll is also small--and is actually negative around the turn of the century, as mentioned previously.

The first significant change in the basic assumptions occurred in 1964, as a result of considering the cost estimates made on dynamic assumptions. A study of the trend of the differential between hospitalization costs and covered earnings indicated that the level-cost for the hospital-benefits portion of the 1963 King-Anderson Bill should be increased 10% to reflect changes between 1961 (the year used in obtaining earnings levels and hospital costs) and 1965 (the year the program was scheduled to begin). It was further assumed that there would be another 10% increase in the level-cost of the benefits, due to the cumulative difference in the trends of hospital costs and covered earnings after 1965.

The next major changes in basic assumptions were made in the cost estimates of the Hospital Insurance benefits recommended by the Advisory Council on Social Security in its consideration of the subject in 1963-64. Long-range costs continued to be on a static basis (the assumption as to earnings rates being that they would remain at 1963 levels). Therefore, there was no change in the previous assumption that the earnings base would be kept up-to-date with changes in the general level of earnings. However, it was assumed that per-diem hospital costs would rise 2.7% per year for the first 5 years after 1965, then would rise an average of 1.35% per year for the subsequent 5 years, and finally would decrease at an annual rate of .5% after 1975.

The figure of 2.7% is the difference between the average annual increase in average daily hospitalization costs and the average earnings in covered employment, as shown in Table 3. This differential was expected to decrease so as to reflect an end to the "catching up" from a situation where hospital workers were significantly underpaid in relation to other workers. The negative differential of .5% per year after 1975 was based on the belief that the future would bring greater productivity of hospital personnel.

It might be noted that, under the Advisory Council plan, there was no need to assume that future Congresses would keep the deductibles up-to-date, because they were proposed to be equivalent to one-half of the cost of a day's hospitalization. Therefore, they would automatically be kept up-to-date.

Another change in the long-range cost estimates adopted at the suggestion of the Advisory Council was to develop costs for a 75-year period, rather than to present cost estimates into perpetuity. The Council believed that it serves no useful purpose to present estimates as if they had validity in perpetuity and that 75-year projections allow sufficient time to adjust to new and changing experience as it emerges.

The last major changes in basic assumptions took place as a result of a desire on the part of Mr. Mills, Chairman of the House Committee on Ways and Means, that the cost estimates be such that it not be implicit that the earnings base would have to be kept up-to-date with rises in the general level of earnings. This was accomplished by computing long-range costs on a dynamic basis (but assuming no change in the earnings base) and by limiting the period for which cost estimates were made to 25 years, instead of the 75 years used for the Advisory Council plan and for the subsequent King-Anderson Bill.

It was assumed that earnings levels would rise at 3% per year and that hospital per-diem costs would rise 5.7% per year until 1970, 4.35% per year between 1970 and 1975, and 3% per year after 1975. This assumption preserved the same differential between earnings levels and hospital costs which was assumed in the estimates for the Advisory Council plan and for the subsequent King-Anderson Bill, except that the negative differential of $\frac{1}{2}$% per year after 1975 was eliminated. The result therefore was a much more conservative estimate. It might be noted that the dynamic basis for long-term estimates is fundamentally the same as that which had been used previously for short-term estimates, although the latter were made for only a few years in the future.

The period for which cost estimates were made was considerably shortened because of the impossibility of predicting the trend of medical costs and of hospital-utilization and other medical-practice trends in the distant future. The length of the period was 25 years, because the ratio of persons aged 65 and over to those at the working ages, 20-64, declines during the 15-year period between 1990 and 2005 and is not expected to exceed the 1990 ratio until approximately 2015.

Another change made in the assumptions for the final legislation--also at Mr. Mills' suggestion--was the addition of a 10% safety margin in the utilization rates. The previous estimates--like those prepared over the years for the OASDI system--did not contain any safety margin in the demographic factors such as this, but rather were based on what were believed to be the most reasonable assumptions possible.

It may be noted that the policy and economic assumption that the earnings base will not change even though the general earnings level is assumed to rise is also of a conservative nature. If the economic assumptions do eventuate, it is very likely--based on past history--that the earnings base will be increased. Under the cash-benefits OASDI program, part of the additional income thereby resulting would be used for the increased outgo arising from counting more earnings in the computation of benefits. In the Hospital Insurance program, however, there would be no additional outgo, but only additional income. In fact, if all the assumptions in the cost estimates for the enacted HI program were realized, and if the earnings base were kept-up-to-date with changes in the earnings level in the future, the increases in the contribution schedule in the future after 1972 would not be necessary.

Actuarial Studies Available from the Office of the Actuary*

40. The Financial Principle of Self-Support in the OASI System--April 1955.

41. Analysis of Benefits, OASI Program, 1954 Amendments--May 1955.

46. Illustrative United States Population Projections--May 1957.

48. Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance under 1956 Amendments--August 1958.

49. Methodology Involved in Developing Long-Range Cost Estimates for the Old-Age, Survivors, and Disability Insurance System--May 1959.

50. Analysis of Benefits, OASDI Program, 1960 Amendments--December 1960.

51. Present Values of OASI Benefits in Current Payment Status, 1960--February 1961.

52. Actuarial Cost Estimates for Health Insurance Benefits Bill--July 1961.

53. Medium-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance and Increasing-Earnings Assumption--August 1961.

54. Estimated Amount of Life Insurance in Force as Survivor Benefits under OASI 1959-60--October 1961.

55. Remarriage Tables Based on Experience under OASDI and U.S. Employees' Compensation Systems--December 1962.

56. Analysis of Benefits under 26 Selected Private Pension Plans--January 1963.

57. Actuarial Cost Estimates for Hospital Insurance Bill--July 1963.

58. Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance System, 1963--January 1964.

59. Actuarial Cost Estimates for Hospital Insurance Act of 1965 and Social Security Amendments of 1965--January 1965.

60. Mortality Experience of Workers Entitled to Old-Age Benefits under OASDI 1941-1961--August 1965.

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* Numbers not listed are out of print.